

Amendments to the Specification

Please replace the first paragraph of the Specification with the following amended paragraph:

This application is a Continuation-in-part and claims benefit of co-pending application Serial Number 09/676,457 filed on September 29, 2000, which claims the benefit of U.S. Provisional Application Serial No. 60/164,638, filed in the name of Francis W. Daly, Jr. on November 10, 1999, the complete disclosure of which is incorporated herein by reference.

Please replace paragraph beginning at page 12, line 22 with the following amended paragraph:

According to another aspect of the invention, the weather incident prediction function of the invention communicates with the on-board flight management system to access the aircraft's intended flight path stored therein and compare it to predicted future position of the storm cell. If the predicted storm cell path and the aircraft's intended flight path coincide, and if conditions, such as phase of flight and storm cell intensity, could threaten the safety of flight, an appropriate warning is issued. For example, takeoff and landing are critical phases of flight because the aircraft is in close proximity to the ground and therefore intersection with a storm cell has greater potential to lead to disaster. Therefore, intersection with a storm cell of given intensity has greater potential to lead to disaster during takeoff and landing phases of flight than intersection with a storm cell of the same intensity during a less critical phase of flight such as cruising at altitude. Preferably, the warning is issued sufficiently in advance of the predicted coincidence that ample opportunity is afforded for an appropriate course modification.

Please add the following two new paragraphs before the paragraph beginning at page 19, line 16:

For example, takeoff and landing are critical phases of flight because the aircraft is in close proximity to the ground and therefore intersection with a storm cell has greater potential to lead to disaster. Therefore, intersection with a storm cell of given intensity has greater potential to lead to disaster during takeoff and landing phases of flight than intersection with a storm cell of the same intensity during a less critical phase of flight such as

cruising at altitude. Therefore, according to one embodiment of the invention, the grade of threat is greater during a critical phase of flight than for a non-critical phase of flight for a predicted intersection with a storm cell of the same intensity as predicted by the weather incident prediction function 106. As a result, the aural warning annunciated on the aural warning device 110 is modified in such manner as to indicate a greater severity of threat as a function of the aircraft being in a critical phases of flight, or a lesser severity of threat as a function of the aircraft being in a less critical phase of flight. Optionally, the aural warning is modified as a function of the critical nature of the aircraft's intended phase of flight based on information stored in FMS 104, as discussed herein.

Alternatively, the visual warning displayed on the visual warning device 108, *i.e.*, the textual message 206 (shown in FIGURE 8D), is modified in such manner as to indicate a greater or lesser severity of threat as a function of the intensity of the storm cell and the aircraft's current or intended phase of flight. By example and without limitation, for a predicted intersection with a storm cell of given intensity during a critical phase of flight, the visual warning, *i.e.*, textual message 206, may be displayed in a red color or rapidly flashing to indicate a serious threat that should be avoided to preserve the safety of flight. However, for a predicted intersection with a storm cell of the same intensity during a non-critical phase of flight, the visual warning, *i.e.*, textual message 206, may be displayed in quiescent white colored text as a mere "awareness" or "informational" warning indicating the level of threat is minimal; or the visual warning may be displayed in yellow colored quiescent or slowly flashing text indicating a cautionary level of threat which is preferably avoided in the interest of comfort, but is not a threat to the safety of the aircraft, crew and passengers. The level of intensity of a storm cell that triggers a serious, cautionary or minimal level of threat is expected to be different for different types of aircraft because different types of aircraft may be more or less susceptible to a storm cell of the same intensity, and because different aircraft may be more or less susceptible to a storm cell of the same intensity during different critical phases of flight, such as being more susceptible during landing than takeoff or being more susceptible during takeoff than landing. Therefore, the intensity of a storm cell that triggers the visual warning, *i.e.*, textual message 206, indicating a serious, cautionary or minimal level of threat may be different for different types of aircraft or different phases of flight. Accordingly, the intensity of the storm cell, as predicted by the weather incident prediction function 106, that triggers a warning of the different serious, cautionary or minimal

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grades of threat is selectable as a function of the aircraft type as well as either or both of the aircraft current or intended flight path and current or intended phase of flight information.